Answer sheet

PowerPoint Questions

Where are hydroelectric power plants located? (Answer: At points in rivers, at dams.) Does anyone know how they work? Discuss and get their ideas.

Has anyone stood underneath a waterfall? What does it feel like?
(Answer: The water pounds down on you with a lot of force.)
By the time that water reaches the ground, it has a lot of power. Does water falling from tall waterfalls have more or less power than the water from shorter waterfalls?
(Answer: More power.)
Have students identify where the potential and kinetic energy would be in the picture.
(Answer: Potential would be at the top of the dam before the water starts to fall. Kinetic would be the falling water with it increasing as it reached the bottom.)

EXPLANATION:

1.Did changing the height of where the water was poured from make a difference in the voltage? *Yes, the higher the fall of water the more voltage. Because there was a greater change from potential to kinetic energy.*
2. Looking at the data table at what height was the most voltage produced? *1 meter*
3. Which height had the greatest potential energy? *1 meter*
4. Where is the kinetic energy? *The falling water, and has the greatest kinetic energy at the bottom.*
5. Where in a dam would you find the turbine that the water goes through? *At the bottom.*
6. Does the height of a dam make a difference in the amount of electricity that is produced? *Yes*
7. Where in the dam would the kinetic energy be the greatest? *At the bottom.*
8. What was your independent variable in this experiment? *The height the water fell from.*
9. What was your dependent variable in this experiment? The voltage produced.
10. What were the constant variables? The amount of water, the water wheel used, and the multimeter

EVALUATION:

1. How is electricity produced in a hydropower plant? *Water flows through the dam turning turbines which produce electricity.*
2. What are the factors that affect the amount of electricity that can be produced in a hydropower plant? *The speed of the water, the elevation that the water falls through the dam, and size of the turbines.*
3. Before the water flows through the dam does it have potential or kinetic energy? *potential*